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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,379	05/24/2001	Jay M. Short	DIVER1370-7	4596

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EXAMINER

RAMIREZ, DELIA M

ART UNIT

1652

PAPER NUMBER

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/866,379	SHORT ET AL.	
Examiner	Art Unit	
Della M. Ramirez	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 60-64 and 91-112 is/are pending in the application.
- 4a) Of the above claim(s) 107-112 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 60,62-64,97,98 and 101-106 is/are allowed.
- 6) ☒ Claim(s) 61,91-96,99 and 100 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 31463
612103
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Status of the Application

Claims 60-64, 91-112 are pending.

Applicant's amendment of claims 60-61, cancellation of claims 1-59, 65-90, addition of claims 91-112, and amendments to the specification, in a communication filed on 9/4/2003 are acknowledged.

Applicant's submission of a declaration for a biological deposit at ATCC by Mi Kim, a declaration under 37 CFR 1.132 by Nelson Barton, and a new sequence listing in a communication filed on 9/4/2003 are acknowledged.

Newly submitted claims 107-112 are directed to a non-elected invention which is different from the inventions originally claimed for the following reasons: claims 107-112 are directed to methods for producing a transgenic plant by introducing the polynucleotide of SEQ ID NO: 9 or SEQ ID NO: 7. None of the inventions originally presented are directed to a method for producing a transgenic plant by introducing the polynucleotide of SEQ ID NO: 9 or SEQ ID NO: 7. Since applicant has received an action on the merits for the originally presented elected invention of Group XIV, i.e. a method for improving the nutritional value of foodstuff using the polypeptide of SEQ ID NO: 10, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 107-112 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 3/4/2003 and 6/2/2003 are acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

2. The amendment filed 11/19/2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the amendments to paragraphs referring to SEQ ID NO: 5 and 6 as variants of the polynucleotide of SEQ ID NO: 7 having specific substitutions are not supported by the specification since SEQ ID NO: 5 and SEQ ID NO: 6 as originally filed do not correspond to those variants of SEQ ID NO: 7 recited in those paragraphs. See specifically paragraph 47 and 241. SEQ ID NO: 5 as originally filed contains the following bases at positions 389-391, TGA, whereas SEQ ID NO: 5 as amended in the sequence listing filed on 11/19/2002, contains bases GAG at positions 389-391. Therefore, there is no support for the assertion that SEQ ID NO: 5 is a variant of SEQ ID NO: 7 wherein nucleotide 389 has been replaced with a G and nucleotide 390 has been replaced with an A. It is noted that the numbering is the same for SEQ ID NO: 5-7 since they all are of the same length. Similarly, SEQ ID NO: 6 as originally filed contains the following bases at positions 437-440, CTGG, whereas SEQ ID NO: 6 as filed on 11/19/2002 contains bases TGGC at positions 438-440. Therefore, there is no support for the assertion that SEQ ID NO: 6 is a variant of SEQ ID NO: 7

wherein nucleotides 437-439 have been replaced with TGG. Applicant is required to cancel the new matter in the reply to this Office Action.

3. The specification remains objected to for not complying with sequence rules. The sequence listing filed on 9/4/2003 contains sequences which are not supported by the specification as originally filed. While Applicants indicate that the sequence listing amends SEQ ID NO: 5-6 to comply with the preliminary amendment filed on 12/17/2001, it is noted that said preliminary amendment only inserted sequence identifiers and did not make any changes to the positions which are substituted in SEQ ID NO: 7 to obtain SEQ ID NO: 5-6, i.e. the substitutions recited correspond to SEQ ID NO: 5-6 as presented in the originally presented sequence listing.

Drawings

4. The formal drawings submitted on 9/4/2003 are accepted by the Examiner.

Claim Objections

5. Claim 61 remains objected to because it is partially drawn to non-elected subject matter. While Applicants assert that claim 61 has been amended to overcome this objection, it is noted that the instant claim is still partially directed to a method of improving the nutritional value of foodstuff using phytases encoded by variants of the polynucleotide of SEQ ID NO: 7 which would not encode the polypeptide of SEQ ID NO: 10 in view of the recitation of "any combination thereof". Only if all the recited combinations are present, the resulting nucleic acid

would encode the polypeptide of SEQ ID NO: 10. It is suggested that the term “any combination thereof” be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112, Second Paragraph

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 60-64, 91-106 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 60 (claims 62-64, 97-98, 101-106 dependent thereon) is indefinite in the recitation of “liberation of inorganic phosphatase” since phosphatase is an enzyme and phytases liberate inorganic phosphates. For examination purposes, it will be assumed that the term “phosphatase” is “phosphate”. Correction is required.

9. Claim 61 (claims 91-96, 99-100 dependent thereon) is indefinite in the recitation of “...having a sequence selected from the group consisting of: a)..., b)....., c) a nucleic acid encoding the amino acid sequence” Since item c) is not a sequence but a nucleic acid. For examination purposes, it will be assumed that item c) reads “a nucleic acid sequence encoding the amino acid sequence...”. Correction is required.

10. Claim 91 is indefinite in the recitation of “the method of claim 61 wherein the recombinant expression system comprises a vector comprising said....” as it is not further limiting claim 61. As known in the art, a recombinant expression system encompasses a vector and a host cell. As such, it is implied that the recombinant expression recited in claim 61 already

contains a vector which comprises the phytase-encoding nucleic acid. For examination purposes, claim 91 will be considered a duplicate of claim 61. Correction is required.

11. Claim 92 is indefinite in the recitation of "the method of claim 91 wherein the recombinant expression system is within a host cell" for the following reasons. As indicated above, a recombinant expression system comprises a vector and a host cell wherein said vector can be introduced to express the protein of interest. As such, it is unclear as to how a vector and a host cell can be within another host cell. For examination purposes, claim 92 will be considered a duplicate of claim 61. Correction is required.

Claim Rejections - 35 USC § 112, First Paragraph

12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. Claims 60-64 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection has been discussed at length in Paper No. 15, mailed on 12/27/2002.

14. Applicants submit that the new sequence listing provided presents the correct number of amino acids for the polypeptide of SEQ ID NO: 10, i.e. 432 amino acids. Applicants submit that the original sequence listing presented SEQ ID NO: 7 and SEQ ID NO: 9 as identical sequences. However the specification discloses that SEQ ID NO: 7 and SEQ ID NO: 9 are

different as stated in page 14, lines 9-19 of the specification. Applicants submit that the instant amendment to the sequence is merely correcting the sequence according to the specification and that these modifications are supported by ATCC deposit PTA-4822.

15. The specification discloses that the polynucleotide of SEQ ID NO: 9 is the gene labeled 819PH59 (page 144, Example 1). In view of the declarations by Nelson Barton and Mi Kim stating that the gene labeled 819PH59 has been deposited at ATCC as PTA-4822 and that the deposited material PTA-4822 is the same material described in the specification as 819PH59, this rejection is hereby withdrawn.

Allowable Subject Matter

16. Claims 60-64, 91-106 appear to be allowable over the prior art of record but are rejected/objected to for the reasons set forth above.

Conclusion

17. No claim is in condition for allowance.

18. Applicant's amendment of claims 60-61 and addition of claims 91-106 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 1652

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


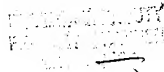
19. Certain papers related to this application may be submitted to Art Unit 1652 by facsimile transmission. The FAX number is (703) 308-4556. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If Applicant submits a paper by FAX, the original copy should be retained by Applicant or Applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delia M. Ramirez whose telephone number is (703) 306-0288. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy can be reached on (703) 308-3804. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Delia M. Ramirez, Ph.D.
Patent Examiner
Art Unit 1652

DR
December 19, 2003



16W